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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/594,995 | 06/14/2000 | Masaki Katayama | P/2171-185 | 7919 |

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| EXAMINER |
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FAULK, DEVONA E

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| ART UNIT | PAPER NUMBER |
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2644

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|-------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 09/594,995 | Applicant(s) KATAYAMA ET AL. | |
| | Examiner Devona E. Faulk | Art Unit 2644 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8,10,11,13,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8,10,11,13,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed, 11/30/2004, with respect to the rejection(s) of claim(s) 15 and 16 under 102 (f) and 103 (a) respectively have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sekine.

2. The applicant has requested that the examiner rejoin claims 8, 10, 11 and 13 because these claims were indicated as being allowable over the art in a previous office action. In view of the applicant's admitted prior art and Scofield the examiner asserts that the objections of those claims in the first office action would be withdrawn and rejections would be forthcoming. The examiner agrees to rejoin the claims but rejections are forthcoming.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 8, 10 and 11** are rejected under 35 U.S.C. 102(b) as being anticipated by the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3).

Regarding **claims 8**, the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) discloses a controller (CPU, 150; page 2, lines 1-2) comprising a display (Figure 11) screen for displaying an image corresponding to control data, the control data including

Art Unit: 2644

information associated with an arrangement of virtual speakers, wherein the image displayed on the display screen identifies a position of a listener and positions of the virtual speakers arranged to surround the listener, and wherein control data corresponding to a desired position is selected from the positions of the virtual speakers; and a processor for transmitting to an external device the control data selected via the display screen (page 1, line 14-page 4, line 3).

Regarding **claim 10** the applicant's admitted prior art discloses an audio system comprising an audio apparatus (Figures 11 and 12) , including a first memory in which control data is stored (ROM), a second memory for storing control data inputted from an external device (RAM) a control section for selecting either one of the first and second memories and for controlling operation according to a control program using the control data stored in the selected memory; and a controller (CPU) including an operation screen for displaying an image corresponding to control data, the image being used to select therethrough particular control data from a plurality of control data, and a processor for transmitting the control data selected via the operating screen to the audio apparatus, wherein the control program of the control section is transferred from the controller to the audio apparatus and is rewritably stored in the second memory (page 1, line 14-page 4, line 3; Figures 11 and 12).

All elements of **claim 11** are comprehended by claim 10.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 13 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) in view of Sekine et al. (EP 0 563 929).

Regarding **claim 13**, the applicant's admitted prior art discloses a method of controlling an audio apparatus (Figures 11 and 12), comprising storing first control data (page 3), displaying a position of a listener and positions of the virtual speakers arranged to surround the listener, the positions of the listener and the virtual speakers being visually identifiable; selecting a desired position from the positions of the virtual speakers display; storing second control data corresponding to the selected virtual speaker position; selecting either the first control data or the second control data and controlling operation of the audio apparatus using the selected control data (page 1, line 14-page 4, line 3; Figures 11 and 12). The applicant's admitted prior art teaches on storing data but fails to disclose wherein the first control data includes information associated with an arrangement of virtual speakers and storing data corresponding to selected virtual speaker position. However, this concept was well known in the art at the time of filing as taught by Sekine. Sekine discloses control data that includes information associated with a speaker position (columns 16-24) and storing information corresponding to the selected virtual speaker position (32, Figure 12; column 20 lines 6-30). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use Sekine's concept of data associated with a virtual speaker position and storing data corresponding to a virtual speaker position in order to not have to reproduce data repetitively.

Regarding **claim 15**, the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) discloses a stand alone audio system including a virtual speaker position operation part (ROM) (Figure 11, Figure 12) (page 3, lines 14-20), a position of a virtual speaker being given through the virtual speaker position operation part, a listener feeling that sound comes from the virtual speaker (page 3, lines 14-20); a sending part for sending DSP parameter data that is prepared for each of sampling frequencies and includes data defining the position of the virtual speaker given through the virtual speaker position operation part memory for storing the DSP parameter data being sent from the sending unit (Figure 11) (There is inherently some method of sending the DSP data) ; audio signal terminals (Figure 11, T1-T4) corresponding to sound sources, where audio signals from the sound sources are input through the audio signal terminals; a selector (SL; Figure 11) for selecting a sound source from among the sound sources; a sound field processor (DSP, page 3, lines 3-8; lines 17-20) for sound field processing the sound signal from the selected sound using one of the DSP parameter data corresponding to the sampling frequency of the sound source selected by the selector, and an output terminal (Ts), the audio signal processed by the sound field processor through the output terminal (Figure 11, Figure 12) (page 3, lines 17-20). The applicant's admitted prior art fails, however, to disclose an adjustable position of a virtual speaker being given through the virtual speaker and data defining the adjustable position of the virtual speaker given through the virtual speaker position operating part. However, the concept of adjusting the position of a virtual speaker was well known in the art at the time of filing as taught by Sekine. Sekine discloses the concept of adjusting the position of a virtual speaker (See Abstract; column 16-column 24). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to

Art Unit: 2644

use Sekine's concept of adjusting virtual speaker positions in order to provide clear discrimination when producing plural kinds of sounds.

7. **Claim 16** is rejected under 35 U.S.C. 103(a) as being unpatentable over the applicant's admitted prior art (Figures 11 and 12, page 1, line 14-page 4, line 3) in view of Sekine et al. (EP 0 563 929) in further view of Scofield et al. (U.S. Patent 5,459,790).

Claim 16 claims the audio system of claim 15, wherein the DSP parameter includes constituent of a head relation transfer function for a right ear, constituent of a head relation transfer function for a left ear and constituent representing difference between both ears with respect to time of arrival of an identical sound at both ears. As stated above apropos of claim 15, the applicant's admitted prior art meets all elements of that claim. Therefore, the applicant's admitted prior art meets all elements of claim 16 with the exception of the claimed matter. Scofield teaches the concept of a DSP parameter including constituents of a head related transfer function for a right and left ear and a constituent representing difference between both ears as claimed (column 3, lines 2-31). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to use Scofield's concept of a DSP parameter as claimed for the benefit of giving the user the ability to apply direction dependent equalization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

Art Unit: 2644

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huyen Le can be reached on 703-305-4844. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DF



HUYEN LE
PRIMARY EXAMINER